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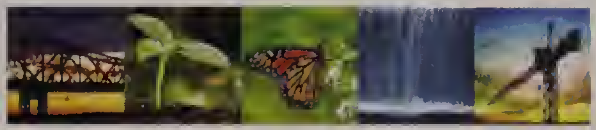

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May 2, 2016
GZA File No: 01.00171521.15

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street
Wilmington, Massachusetts 01887

REF
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Re: Release Abatement Measure Plan
Construction-Related Remediation Activities
(Former) Everett Staging Yard
1 Horizon Way
Everett, Massachusetts
Release Tracking Number (RTN) 3-13341
Additional RTNs 3-17760 (38 Broadway, Everett, MA) and
RTN 3-1850(3 Charlton Street, Everett, MA)

To Whom It May Concern:

GZA GeoEnvironmental, Inc. (GZA), on behalf of Wynn MA, LLC (Wynn MA), has prepared this Release Abatement Measure (RAM) Plan to describe those Response Actions pursuant to the Massachusetts Contingency Plan (MCP) that will be completed during the construction of the Wynn Resort in Everett at the former Everett Staging Yard Disposal Site (the Site) and neighboring properties (collectively referred to as the RAM Project Area). The Site is identified by the Massachusetts Department of Environmental Protection (MassDEP) as Release Tracking Number (RTN) 3-13341. A Site Locus Map is presented as Figure 1, and the properties that will be subject to the provisions of this RAM Plan are shown on Figure 2. Additional information about the location and MCP history of each of the properties is presented later in this document.

This RAM Plan has been prepared in accordance with 310 CMR 40.0444 of the MCP, and with the Limitations in Appendix A. The Plan will be submitted electronically through MassDEP eDEP online filing system. A copy of the RAM transmittal form (BWSC-106) is included in Appendix B.

The Site is a Public Involvement Plan (PIP) Site under the MCP. A draft of this RAM Plan was presented for public comment at a meeting held on February 17, 2016. The public comment period ended on March 9, 2016. No comments were received. Although the boundaries of the area to which this RAM Plan applies have been slightly expanded since the draft RAM Plan, the procedures for the handling and management of remediation waste remain consistent with those included in the draft.

EXECUTIVE SUMMARY

Soil, groundwater, and sediment at the former Everett Staging Yard Disposal Site and its vicinity have been contaminated by historic activities, including the former use of the Site as a chemical manufacturing facility. Response actions to be conducted under this RAM Plan will include the excavation of Contaminated Soil, the dredging of Contaminated Sediment, and/or the placement of clean fill materials at the properties identified in the Plan. As required by the MCP, the Plan provides for the appropriate management and disposal of Remediation Waste and Remedial Wastewater generated during construction activities, and describes the implementation of health

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and safety procedures to protect on-Site workers and off-Site residents. Further, because the RAM activities are associated with the construction of a structure, this RAM Plan also includes the findings of a focused site assessment, risk characterization and feasibility evaluation to support the eventual filing of a Permanent Solution with Conditions for the Disposal Site.

INTRODUCTION

The (former) Everett Staging Yard Site is located on the northern bank of the Mystic River in Everett, MA (Figure 3). The upland portion of the Site comprises approximately 21.75 acres of land, and the water-side portion comprises approximately 8.44 acres seaward of mean high water (MHW), including part of the Mystic River channel and an embayment in the southeast corner of the property. To facilitate discussion, different portions of the Site and adjacent areas are referred to in this report as follows:

- Disposal Site: as described in the MCP at 310 CMR 40.0006(1)(b), the term "disposal site" refers to a place or area where an uncontrolled release of oil and/or hazardous material... has come to be located." For the purpose of this report, Disposal Site or Site refers to the entire former Everett Staging Yard Disposal Site, identified by MassDEP as RTN 3-13341.
- Upland Property: the upland portion of the former Everett Staging Yard Disposal Site.
- Water-side Site: The water-side portion of the Disposal Site, where contaminants released from the Upland Property have come to be located in sediment in the Mystic River.
- Channel: A historically dredged (bottom contours generally on the order of -16 to -18 feet NAVD88) navigational channel within the embayment.

The Site is the proposed location of a resort to be developed by Wynn MA. The following components of the project will be conducted as part of the RAM:

- Earthwork and utility installation for a building with three levels of belowground parking, with a footprint of approximately 500,000 square feet;
- Earthmoving and grading for landscape and open space amenities, including a Harborwalk along the waterfront; and
- Earthwork and dredging to construct significant improvements along the currently structurally and ecologically degraded shoreline, including:
    - Replacement bulkhead comprised of concrete pile-supported deck above a stone slope revetment, along a section of the northwestern embayment shoreline;
    - Replacement steel sheetpile bulkhead along the northern and eastern embayment shoreline, in lieu of the existing deteriorated timber and stone bulkheads;
    - Waterfront access to the Site via new floating docking facilities to be constructed in the embayment; and
    - A "living shoreline" of restored salt marsh and vegetated coastal bank along the waterfront.

In addition to the Site, Wynn MA also controls or has negotiated easements on contiguous parcels in its vicinity that will be developed to provide vehicular access to the resort. As shown on Figure 2, these lots include parcels 1, 2, and 3 formerly owned by the Massachusetts Bay Transportation Authority (MBTA) at 80 Broadway; additional portions of the 80 Broadway property still owned by the MBTA; properties at 20 and 38-50 Broadway; and a portion of the property at 3 Charlton Street; the property at 128 Broadway; and the property at 150 Alford Street. Additional utility work and road improvements will be made along portions of Charlton Street, Horizon Way and Broadway. These properties, which lie outside the boundary of the former Everett

Staging Yard Disposal Site, are referred to as "neighboring properties" in this RAM Plan. Property descriptions and a brief summary of the MCP release history for these parcels are provided later in this Plan. The following work at these parcels will be conducted as part of the RAM:

- Construction of the primary access driveway to the resort across Parcel 1 and the properties at 20 and 38-50 Broadway and 150 Alford Street; and

- Construction of a service road and associated utilities across Parcels 2 and 3 and a portion of the property at 3 Charlton Street, additional portions of the 80 Broadway property, 128 Broadway, and portions of Charlton Street and Broadway.

The following sections of this submittal are intended to address the specific requirements for a RAM Plan under 310 CMR 40.0444.

PERSON ASSUMING RESPONSIBILITY FOR RAM (310 CMR 40.0444(1)(a))

The entity assuming responsibility for this RAM is Wynn MA, LLC. Information for Wynn MA's contact person is provided below:

Mr. Robert DeSalvio
President
Wynn MA, LLC
101 Station Landing, Suite 2200
Medford, Massachusetts 02155
Tel: 857-770-7801

On January 2, 2015, Wynn MA acquired the portion of the former Everett Staging Yard Disposal Site in Everett, Massachusetts. On February 5, 2015, Wynn MA filed an Eligible Person Submittal and a Revised Tier II Classification with MassDEP for RTN 3-13341.

Wynn MA also controls or has negotiated easements to the other parcels included within the RAM Project Area. Remediation Waste generated during the RAM may be re-located from one property within the RAM area to another property owned by Wynn MA within the RAM area for temporary storage under the provisions of the MCP Section 310 CMR 40.0034(4).

DESCRIPTION OF RELEASE, SITE CONDITIONS AND SURROUNDING RECEPTORS (310 CMR 40.0444(1)(b)

The following sections provide a description of the Site and its vicinity, including surrounding receptors. Also included is a brief summary of the release history for each of the parcels within the RAM area, with a focus on MCP conditions that have implications for the proposed scope of work.

FORMER EVERETT STAGING YARD

Property Description and Surroundings

The Site is located at 1 Horizon Way in Everett, Massachusetts, at latitude 42.395 degrees north and longitude 71.069 degrees west (Figure 1). The Universal Transverse Mercator (UTM) coordinates are 4,695,683 meters north and 329,684 meters east. The Upland Property is an irregularly shaped parcel of land roughly bounded by Alford Street to the east, MBTA railroad tracks to the west, an MBTA bus repair and maintenance facility to the north, and the Mystic River to the south. The Site includes a peninsula of land that extends southerly into the Mystic River, and most of the small embayment located eastward of the peninsula (Figure 3).

The ground surface at the Site is generally flat with a gentle slope toward the southwest. Based on an April 2013 survey prepared by Harry R. Feldman, Inc. (Professional Land Surveyors), ground surface elevations at the upland property range from approximately 8 to 13 feet NAVD88. The Site is located within the Boston Basin, a regional depression of bedrock consisting primarily of Cambridge Argillite, a partially metamorphosed siltstone. Site conditions generally consist of fill over a variable sequence of naturally deposited organics, sand and gravel, and silty clay over weathered rock and bedrock. Filling over naturally deposited materials occurred in the area of the Site from the late 1800s through the early 1960s. More recent naturally deposited sediments along the shoreline include sand, silt, and organics.

The depth to groundwater ranges from approximately 4 to 10 feet. Groundwater at the Site flows generally toward the east on the southern portion of the Upland Property and generally toward the south on the northern portion of the Upland Property.

Access to the Upland Property is limited by the presence of a chain-link fence with two gates: one gate is in the eastern portion of the Site, along Horizon Way, and the second gate is located on the northern portion of the Site across an extension of Horizon Way.

The Site is adjoined to the northeast by a bus maintenance and repair facility operated by the MBTA; to the southeast by properties along Alford Street, including a vacant commercial building and facilities operated by the Boston Water and Sewer Commission (BWSC) and the Massachusetts Water Resources Authority (MWRA); to the southwest by the Mystic River; and to the northwest by railroad tracks for the MBTA Commuter Rail, beyond which are several large commercial/retail buildings associated with the Gateway Center. A residential neighborhood is located beyond the commercial properties abutting the southeast side of Alford Street.

According to a Massachusetts Geographic Information System (MassGIS) map, a copy of which is included in Appendix C, the Site is not located in or within 500 feet of a Zone II public water supply, potentially productive aquifer, a Zone A surface water body, an Interim Wellhead Protection Area, a protected wetlands habitat, or an Area of Critical Environmental Concern. Protected open space associated with Gateway Park is located approximately 400 feet to the northwest of the Site.

Release History

The following summary relies on information presented in prior reports submitted for the Disposal Site, including:

- Phase I Initial Site Investigation Report, Alford Street, Everett, Massachusetts, prepared by Consulting Engineers & Scientists, Inc. (CES) and dated January 15, 1997;
- Phase II – Comprehensive Site Assessment, Everett Staging Yard, Chemical Lane, Everett Massachusetts, DEP RTN 3-13341, prepared by Tetra Tech Rizzo (TTR) and dated December 26, 2007;
- Phase II Comprehensive Site Assessment, Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts, MassDEP RTN 3-13341, prepared by GEI Consultants, Inc. (GEI) and dated February 10, 2012;
- Phase III Remediation Action Plan, Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts, MassDEP RTN 3-13341, prepared by GEI and dated August 27, 2013;
- Release Abatement Measure Plan, Pre-Construction Activities, (Former) Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts, RTN 3-13341, prepared by GZA and dated August 18, 2015;
- Release Abatement Measure Status Report, Pre-Construction Activities, (Former) Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts, RTN 3-13341, prepared by GZA and dated December 21, 2015; and

- Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341, prepared by GZA and dated December 31, 2015.

Investigations conducted between 1995 and the present have identified several contaminants in soil, groundwater, and sediments at the Disposal Site, including metals, volatile organic compounds (VOCs), volatile petroleum hydrocarbon (VPH) fractions and target analytes, semi-volatile organic compounds (SVOCs), extractable petroleum hydrocarbon (EPH) fractions and target analytes, and polychlorinated biphenyls (PCBs). The sources of contamination at the Disposal Site include past industrial operations, leakage from a former aboveground storage tank (AST), and the placement of contaminated fill. According to historic reports, the Site was occupied by the Cochran Chemical Company, the Merrimac Chemical Company and the Monsanto Chemical Company from the late 1800s until the late 1960s. The buildings on the land-side portion of the Site were razed in the 1970s. The land-side portion of the Site has been used primarily as a material storage and staging yard since the mid-1990s, when rock and fine-grained sediment (“tunnel muck”) from the construction of the Deer Island Outfall was stockpiled on it in a 1- to 7-foot-thick layer. There are currently no buildings at the Site.

In 1995, Consulting Engineers and Scientists, Inc. (CES) of Lakeville, Massachusetts, performed a limited subsurface investigation at the Site prior to it being used as the tunnel muck stockpile area. Arsenic and lead concentrations in soil samples collected during the investigation exceeded the applicable MCP Reportable Concentrations (RCS-2). On January 18, 1996, O’Donnell Sand and Gravel (“O’Donnell”), the property owner at the time, submitted a Release Notification Form (RNF) to MassDEP, and MassDEP assigned RTN 3-13341 to the release. Later in 1996, the excavated tunnel muck and rock were stockpiled and/or spread across the upland portion of the Site. In mid-1999, tunnel muck from the Site was used to cap a separate portion of the former Monsanto property, located across the railroad tracks and north/northwest of the Site, as part of the construction of the Gateway Center Mall, but a 1- to 7-foot-thick layer of the tunnel muck remains at the Site.

In December 1996, CES conducted a Phase I Initial Site Investigation (ISI). Reported arsenic and lead concentrations in soil exceeded the applicable RCS-2 standards, and dissolved arsenic and lead in groundwater exceeded the RCGW-2 standard. In January 1997, on behalf of O’Donnell, CES submitted a Phase I ISI and Tier Classification (Phase I report) to MassDEP. The Disposal Site was classified as a Tier II Disposal Site. The Phase I report identified arsenic, lead, and low pH as contaminants of concern (COCs). O’Donnell submitted a Phase II Extension Request to MassDEP in February 1999 and sold the property to Mystic Landing, LLC (Mystic Landing) in 2001.

In 2001, on behalf of Mystic Landing, Rizzo Associates (a predecessor to Tetra Tech Rizzo, Inc. of Framingham, Massachusetts (Tetra Tech Rizzo)) performed a limited subsurface investigation at the Site, including the collection of soil and groundwater samples. The findings of the subsurface investigation were similar to CES’s findings. Between 2005 and 2007, Tetra Tech Rizzo conducted additional subsurface investigations, including the collection of additional soil, groundwater and sediment samples. The results of these investigations were also generally consistent with those from previous sampling rounds.

In June and July 2007, Williams Environmental, Inc. (Williams) conducted a supplemental subsurface investigation at the Site, including the excavation of 40 test pits and the collection of soil, groundwater and sediment samples. As with previous analyses of environmental media conducted at the Site, lead and arsenic were the contaminants detected at the highest concentrations and with the greatest frequency.

In December 2007, on behalf of Mystic Landing, Tetra Tech Rizzo submitted a Phase II Comprehensive Site Assessment (Phase II CSA) and Tier II Extension Request to MassDEP. The Human Health Risk Assessment included in Tetra Tech Rizzo’s CSA concluded that there was No Significant Risk (NSR) and No Substantial Hazard, as defined by the MCP, associated with the current use of the Site as a construction material storage yard or for similar uses that did not disturb the surficial layer of tunnel muck.

FBT Everett Realty, LLC (FBT) purchased the 1 Horizon Way property from Mystic Landing in October 2009. On February 11, 2010, GEI Consultants, Inc. (GEI) submitted an Eligible Person Certification and Revised Tier Classification Submittal to MassDEP

For sample collection purposes, GZA assumed that fill material would be impacted by Site-related Oil and/or Hazardous Material (OHM) and would require disposal or reuse at an out-of-state facility, while natural materials could potentially be reused at an in-state lined or unlined landfill. Based on the sampling grid developed, and in order to meet the assumed sampling frequencies, GZA collected samples from the fill material within each boring at a rate of approximately one sample per 3.3 vertical feet of soil below the ground surface (equivalent to one sample per 500 tons), and from the natural material at a rate of approximately one sample per 5 vertical feet of soil underlying the fill material (equivalent to one sample per 750-800 tons). The samples from the borings, as well as 32 soil samples from pre-existing stockpiles of material present at the Site, were submitted under chain-of-custody to ESS Laboratory of Cranston, Rhode Island (ESS) for the following suite of chemical analyses:

- RCRA 8 metals by EPA Method 6010/7471;
- Total Petroleum Hydrocarbons (TPH, by modified EPA Method 8100);
- Polychlorinated Biphenyls (PCBs, by EPA Method 8082);
- VOCs, by EPA Method 8260;
- Semi-Volatile Organic Compounds (SVOCs, by EPA Method 8270);
- Toxicity Characteristic Leaching Procedure (TCLP) as needed; and
- pH and conductivity.

The following additional analyses were run on the samples from the fill material:

- Herbicides by EPA Method 8151;
- Pesticides by EPA Method 8081; and
- Reactivity and flashpoint.

Additionally, approximately 5% of the samples from the natural materials were submitted for laboratory analysis for herbicides by EPA Method 8151 and for pesticides by EPA Method 8081.

In all, approximately 1,700 samples were collected during the pre-characterization process. Samples from the borings were collected as composites over the interval sampled, with the exception of samples for VOC analysis which were collected as grab samples. Samples from the stockpiles were collected as 5-point composites, with the exception of the samples for VOC analysis which were collected as grab samples. Appendix D presents the information collected during the pre-characterization program, including figures showing the sampling locations; a table summarizing the analytical results; boring logs; and a complete set of laboratory analytical reports.

Based on observations during the pre-characterization program, the garage excavation will extend through the contaminated fill material and into the natural soils below. The natural soils that will be left in place after the RAM are significantly less contaminated than the accessible and potentially accessible soils (defined under the MCP as soil in unpaved areas between 0 and 15 feet below ground surface (bgs)) at the Upland Property.

Due to changes in project design, additional pre-characterization sampling is ongoing. However, given the amount of data already collected at the Site, it is GZA's opinion that the additional data are unlikely to indicate environmental conditions significantly different than those encountered to date.

Water-Side Site

Historic releases of OHM at the Site have also resulted in impacts to sediments in the Mystic River and embayment (i.e., the Water-Side Site). A Stage II Ecological Risk Characterization prepared by Menzie-Cura in 2006 concluded that the OHM in sediment presented a significant risk of harm to the benthic (bottom dwelling) community. The nature and extent of OHM at the Water-Side Site were further delineated by recent Supplemental Phase II assessment activities conducted by GZA, the results of which were presented in a Supplemental Phase II Comprehensive Site Assessment (CSA) Report in December 2015. At the time of preparation of this RAM Plan, the Supplemental Phase II CSA Report is pending public review and comment. The key findings and conclusions are summarized below.

The main goals of the Supplemental Phase II were to delineate the limits of the Water-Side Site, and to develop clean-up goals to define what portion of Water-Side Site would need to be remediated in order to achieve a condition of NSR. To achieve these goals, GZA performed an extensive sediment sampling and analysis program in the Mystic River and embayment near the Upland Property. GZA also collected sediment samples from locations in the Mystic River that are remote from the Former Everett Staging Yard Site; these remote samples were collected to represent what is referred to in the MCP as Local Conditions (essentially background conditions, as influenced by past human activities) within the river. Based on patterns in OHM concentrations within the Water-Side Site sediments, and on statistical comparisons between Water-Side Site data and the Local Conditions samples, GZA identified arsenic, lead and mercury as the main Contaminants of Potential Ecological Concern in sediment associated with the Site, and delineated an area of approximately 8.44 acres as the Water-Side portion of the Disposal Site.

Selected surficial sediment samples were run for chemical analyses and for 28-day, whole sediment toxicity tests using the marine species *Leptocheirus plumulosus*, and the toxicity test results and chemical data were used to develop clean-up goals for arsenic, lead and mercury. Based on these Site-specific clean-up goals, it was concluded that approximately 6.82-acres of the Water-Side Site would need to be remediated to achieve a condition of NSR.

Supplemental Phase III and Phase IV reports for the Water-Side Site are scheduled to be submitted later in 2016.

1 HORIZON WAY

Property Description and Surroundings

This property, referred to as 22 Chemical Lane in MassDEP's Sites Database, lies within the Disposal Site Boundary for RTN 3-13341, but was briefly used as a staging area for concrete-encased utilities excavated from a property in Boston in November 1999. MassDEP was subsequently notified of a potential release associated with this temporary use, details regarding which are provided below.

RTN 3-18971

This RTN was issued by MassDEP in November 1999, after it was discovered that the concrete-encased materials brought to the Everett location from Boston included transite, which is an asbestos-containing material (ACM). Asbestos abatement measures were implemented in December 1999 in accordance with a work plan approved by MassDEP, and included the removal and off-Site disposal of approximately 20 cubic yards of material. A Class A-1 RAO (Permanent Solution with no restrictions) was filed in January 2000 for this RTN. Therefore, there are no implications associated with this RTN for the upcoming RAM activities.

20 and 38-50 BROADWAY

Property Description and Surroundings

These parcels are contiguous, extending from southwest (#20) to northeast (#38-50) along the northwest side of Broadway. The 20 Broadway Street property ("Lot D") is used primarily for vehicle storage. The property at 38-50 Broadway Street is occupied by a convenience store, a Mobil gas station, and Dunkin' Donuts shop. The RAM Plan refers to this property as 38-50 Broadway based on the deed for the parcels. However, the location is referred to in some records as 30 Broadway; therefore, for the purposes of completeness, MassDEP files pertaining to 30 Broadway were also reviewed and are summarized in this RAM Plan.

The property at 38-50 Broadway has been operated as a gas station since the mid-1900s; the existing Mobil station was built in the late 1990s. Records indicate that there are three underground storage tanks (USTs) at the property. The USTs include one 14,000-gallon gasoline UST, one 10,000-gallon gasoline UST, and one 6,000-gallon diesel UST. GZA did not observe surficial evidence of USTs (i.e., fill ports, vent pipes, pavement repairs, etc.) on the other parcels.

The MBTA bus maintenance facility is to the northwest; Horizon Way, across which is Lot 2, is to the southwest of 20 Broadway; and various commercial and industrial properties are to the southeast across Broadway and Bow Street. The property to the northeast of 38-50 Broadway is occupied by the Honda Cars of Boston dealership; the portion of that property immediately abutting the 38-50 Broadway property is a fenced, unpaved area used to store vehicles available for sale by the dealership.

Release History – 20 Broadway

No releases have been reported for the 20 Broadway property. It is not a disposal site as defined by the MCP. However, given the known historic filling and urban, industrialized history of the area, it is anticipated that soils at this property may be impacted by urban and historic fill. Therefore, as a conservative measure, soil and groundwater generated during construction activities at this location will be managed in accordance with the procedures established in this RAM Plan.

Release History – 30 Broadway

MassDEP's Sites database indicates that two releases have been reported for the address of 30 Broadway, aka Parcel F, under RTNs 3-2526 and RTN 3-14553, and that RAO statements without any associated deed restrictions have been filed for both RTNs. A site plan included with the RAO for RTN 3-2526 shows the RTN pertaining to a location north of the 38-50 Broadway property, on the current Honda Cars of Boston car storage lot to the north of Dunkin' Donuts. Similarly, a site locus map included with the RAO for RTN 3-14553 references a location north of the 38-50 Broadway parcel. As such, neither of these releases was located within the RAM Project Area and they have no bearing on the work to be conducted under the RAM.

Release History – 38-50 Broadway

The property at 38-50 Broadway consists of an approximately 29,440-square-foot rectangular parcel of land located north of the intersection of Broadway and Horizon Way in Everett. The property is currently improved, from north to south, with a Dunkin' Donuts restaurant, a gasoline filling station, and a convenience store. The gasoline station appears to have been operated under a number of different entities, including Citgo, Mobil and Sunoco.

RTN 3-17760, listed in MassDEP's Sites Database as 38-48 Broadway

In December 1998, MassDEP issued RTN 3-17760 for a release associated with a former underground storage tank at the property. The tank was removed, and subsequent response actions included the excavation and off-site disposal of approximately 585 tons of petroleum-contaminated soils. As part of a Class A-3 RAO, an AUL was filed in 2001, and was subsequently amended in 2009 to restrict the following activities and uses at this location:

- Residential use of the property;
- The use of the property for growing fruits or vegetables intended for consumption;
- The use of the property for a school or day care facility; and
- Any other activity that would result in uncontrolled exposures to soils at the property, unless evaluated and approved by a Licensed Site Professional (LSP).

Further, the AUL requires "periodic (at least annual) visual monitoring of the property to ensure that the pavement surface is generally intact, without areas of significant pavement deteriorations to the extent that underlying soils can be readily contacted by employees or visitors to the property." The AUL also requires any person conducting utility, excavation, or subsurface construction work at the 38-48 Broadway site to retain an LSP to evaluate the proposed work, evaluate the need for precautionary measures, and to develop, as necessary, a Soil Management Plan and/or a Health and Safety Plan. The extent of the AUL area is shown on Figure 2.

As required by the terms of the AUL for RTN 3-17760, a plan has been developed to manage soil generated at 38-50Broadway and will be followed during RAM implementation at this property. The plan is included in Appendix E.

RTN 3-18291, listed in MassDEP's Sites Database as 38 Broadway

A second RTN (3-18291) was generated during redevelopment activities in late 1998 when the characterization of soils for off-site disposal indicated that concentrations of certain polynuclear aromatic hydrocarbons (PAHs) and lead in stockpiled soils were above MCP Reportable Concentrations. The stockpiled soil was disposed of off-site under the RAM provisions of the MCP, and a focused assessment of soils in the vicinity of the proposed building (the current Dunkin' Donuts) was conducted. The RTN is currently classified as DEPNFA (No Further Action) by MassDEP. GZA notes that the AUL for RTN 3-17760 covers the entire property, including the boundaries of RTN 3-18291.

RTN 3-27571, not listed in MassDEP's Sites Database

A third RTN (3-27571) was generated on March 15, 2008, after gasoline was released to the ground surface as a result of a customer overfilling a vehicle gasoline tank. The release was reported to MassDEP, and was remediated using absorbent materials. The release appears to have been limited to the immediate area of the pump island. No soil or groundwater sampling was conducted. Review of the sales receipt suggested that the release was less than the 10-gallon MCP Reportable Quantity, and a Release Notification Retraction was submitted to MassDEP on March 27, 2008. RTN 3-27571 does not appear on MassDEP's online database.

PARCELS 1, 2 AND 3 (FORMERLY PART OF THE MBTA REPAIR FACILITY AT 80 BROADWAY) AND ADDITIONAL PORTIONS OF 80 BROADWAY

Property Description and Surroundings

Parcel 1 is a paved lot with a guard station building located in the southeastern portion and a small shed-like building in the southern portion of the property. Metal storage containers in the vicinity of the shed were used to store bus parts. The parcel is abutted by additional paved portions of the MBTA bus maintenance facility to the north and west, by Horizon Way to the southwest, and by the 20 and 38-50 Broadway properties to the northeast.

Parcel 2 consists of a strip of paved land located along the northeastern border of the MBTA property, extending approximately to the 3 Charlton Street property; various commercial properties along Broadway adjoin this parcel to the east.

Parcel 3 consists of a strip of paved land located along the western border of the MBTA property; railroad tracks adjoin this property to the west. An electrical tower is located in the south-central portion of the parcel.

The additional portions of 80 Broadway included in this RAM Plan consist of paved areas contiguous with Parcels 1, 2 and 3.

Release History

Several RTNs have been identified for 80 Broadway Street, the address of the MBTA's bus maintenance facility; some cover the property as a whole and some apply only to smaller areas within the property. The following RTNs pertain to portions of the 80 Broadway property within the RAM area.

RTN 3-23351

On November 6, 2003, MassDEP was notified of the presence of elevated concentrations of arsenic (35 mg/kg) and PAHs in soil, and RTN 3-23351 was issued for this incident. The source of the elevated PAHs and arsenic was attributed to the presence of coal ash associated with urban fill. OHM concentrations in groundwater were reported to be below reportable concentrations. Much of Parcel 1 is within the Disposal Site Boundary for RTN 3-23351. It was concluded that it was infeasible to conduct remediation to approach or achieve background concentrations of OHM, but that the OHM posed NSR for potential future residential receptors, construction/utility workers, and maintenance workers. A Class B-1 RAO (i.e., no restrictions on future activities or uses) was filed for RTN 3-23351 in 2005. However, as a conservative measure, any soil or groundwater generated during construction will be tracked and managed in accordance with the provisions of this RAM Plan.

RTN 3-24832

MassDEP files contain a report entitled, "Utility Related Abatement Measure (URAM) Completion Report, Release Tracking Number 3-24832, NSTAR Electric & Gas, 115 kV Electric Power Transmission Line Construction, 80 Broadway, Everett, Massachusetts," dated January 2006 and prepared by NSTAR Electric & Gas (NSTAR). According to the report, NSTAR constructed a subsurface 115kV electric power transmission line connecting to the above-ground transmission line located on the MBTA property. The line extends from the Mystic Station electric power generating facility along Alford Street and Broadway to Chemical Lane to the MBTA property. Because the MBTA property was a listed MCP site (RTN 3-23351, related to the presence of arsenic and PAHs in soil, as discussed above), on May 6, 2005 NSTAR notified MassDEP of the proposed work, and MassDEP issued RTN 3-24832 for the subsurface utility work. Approximately 400 tons of soil was generated during the construction work; most of this was re-used as backfill, but approximately 69 cubic yards of soil was transported off-site for use as daily cover material at a Massachusetts landfill. Water generated during construction dewatering was recharged on-site within 100 feet of the excavation.

3 CHARLTON STREET[1]

Property Description and Surroundings

The property is occupied by a multi-tenant commercial structure consisting of several interconnected buildings that were formerly used for industrial purposes. The 3 Charlton Street property is adjoined by railroad tracks, across which are the Gateway Center and vacant land, to the northwest and north; by Brickyard Lane, across which are a multi-story parking garage and newly constructed condominium buildings, to northeast and east; and by the MBTA bus repair property to the south.

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[1] The RAM Plan refers to the property as 3 Charlton Street based on the deed for the parcel; however, RTNs associated with this location were previously filed under 9 Charlton Street.

Construction activities associated with this RAM Plan will be implemented at only a portion of the 3 Charlton Street property, as shown on Figure 2.

Release History

The following four RTNs have been issued for 3 Charlton Street (aka 9 Charlton Street):

RTN 3-1850, listed in MassDEP's Sites as 9 Charlton Street

This RTN was issued to the former New England Bolt site on October 28, 1987 due to the presence of elevated concentrations of arsenic and beryllium in site soil. A Class A-3 Response Action Outcome Statement, was submitted to MassDEP on June 9, 2005. An AUL covering the northern portion of the property, filed as part of the RAO for RTN 3-1850, allows all commercial or industrial uses of the property. It prohibits the re-location of petroleum-impacted soil to another location on the property without the development and implementation of a Soil Management Plan; prohibits the use of the property as a residence, school, nursery, daycare or recreational facility without an LSP Evaluation Opinion stating that such use is consistent with maintaining a condition of NSR; and prohibits the construction of a new building without the use of a vapor barrier and a passive sub-slab venting system to prevent the migration of VOCs into the building.

As required by the terms of the AUL, a plan has been developed to manage soil generated at 3 Charlton Street, and this plan will be followed during RAM implementation at this property (Appendix E).

RTN 3-19103, listed in MassDEP's Sites Database as 9 Charlton Street

A second RTN was issued on December 21, 1999 due to the detection of the volatile organic compound 1,1-dichloroethylene in the groundwater at a concentration of 17 ug/L. This RTN was closed by linking it to RTN 3-1850 on December 18, 2000.

RTN 3-24168, listed in MassDEP's Sites Database as 9 Charlton Street

This RTN was issued on August 20, 2004, due to the detection of reportable concentrations of VOCs, petroleum fractions, and benzo(a)anthracene, a PAH compound, in the soil. The RTN was closed by linking it to RTN 3-1850 on October 13, 2004.

RTN 3-24699, listed in MassDEP's Sites Database as 9 Charlton Street

An additional RTN was issued on March 14, 2005, due to the detection of reportable concentrations of petroleum hydrocarbons in soil and groundwater. A Downgradient Property Status (DPS) Opinion relative to this release was submitted to MassDEP on June 9, 2005. The DPS attributed alkane solvents detected in the groundwater to a release at the adjoining former Hub Fabric Facility. The DPS area overlaps portions of the areas of petroleum releases identified on the 3 Charlton Street property. If new building(s) are constructed in this area, a vapor barrier and passive sub-slab ventilation system must be included; however, there are no implications for the proposed redevelopment activities at this location.

128 BROADWAY

Property Description and Surroundings

This property is situated on the northwest side of Broadway and is occupied by a McDonald's Restaurant. The MBTA bus maintenance facility adjoins the property to the northwest; a Honda automobile dealership at 100 Broadway adjoins the

property to the southwest; a Public Storage facility at 140 Broadway adjoins the property to the northeast; and mixed commercial and residential properties are located across Broadway to the southeast.

Release History

No releases have been reported for the 128 Broadway property, and it is not a disposal site as defined by the MCP. However, as a conservative measure, given the known historic filling and the urban, industrialized history of the area, soil and groundwater generated during construction activities at this location will be managed in accordance with the procedures established in this RAM Plan.

150 ALFORD STREET

Property Description and Surroundings

This property is situated on the corner of Horizon Way (formerly known as Chemical Lane) and Alford Street in Boston/Charlestown and is occupied by a partially completed commercial building. The MBTA bus maintenance facility and the property at 20 Broadway are across Horizon Way to the northeast of 150 Alford Street; paved land and a vacant building are to the northwest; a building occupied by the Boston Water and Sewer Commission is to the southwest; and industrial and commercial property is across Alford Street to the southeast. Alford Street becomes Broadway at the Everett city line.

Release History

No releases have been reported for the 150 Alford Street property, and it is not a disposal site as defined by the MCP. However, as a conservative measure, given the known historic filling and the urban, industrialized history of the area, soil and groundwater generated during construction activities at this location will be managed in accordance with the procedures established in this RAM Plan.

RAM IMPLEMENTATION (310 CMR 40.0444(1)(c))

OBJECTIVES AND SCHEDULE

The objective of this RAM is to establish procedures that will be followed for managing, treating and/or disposing of impacted soil, sediment, and groundwater generated during excavation, dredging, and related activities associated with the redevelopment of the properties within the RAM Project Area.

Work under the RAM is currently anticipated to begin in May 2016, and its anticipated duration is approximately 24 months.

The following sections describe how the RAM will be implemented to meet the requirements of the MCP and related regulatory approvals received for this project.

SITE PREPARATION

Prior to the initiation of the RAM activities, sedimentation and erosion controls will be set up in accordance with the August 2015 Notice of Intent filed for the Wetlands Protection Act (WPA) Order of Conditions authorizing these RAM activities (MassDEP File # 022-0098). The erosion controls will include:

- Crushed stone construction vehicle exit/entrance;
- Silt fence;

- Diversion ditches/berms;
- Sediment basins;
- Seeding, mulching or other soil stabilization methods; and
- Staked coir roll/filter sock or tube.

Perimeter erosion controls will be installed downgradient of earthwork areas, including work within the coastal restoration area, where a staked filter sock was designed to allow for overflow during high tide.

HEALTH AND SAFETY PROTOCOLS

Excavation work in the RAM areas will be conducted by personnel trained to handle contaminated materials per Occupational Safety and Health Administration (OSHA) Regulation 29 CFR 1910.120. Procedures will be followed to protect the health and safety of all on-site workers and the community.

RAM SCOPE OF WORK

The activities conducted under this RAM will take place in three areas: the Upland Property, the Water-Side Site, and neighboring properties controlled by Wynn MA (Figures 4A and 4B). The following sections summarize the scope of work in each of these areas.

Upland Property

The most extensive soil- and groundwater-generating activities will be associated with the construction of a 25-story luxury resort building, a one- to two-story podium building with gaming and associated retail facilities, a 3-story subgrade parking garage, and related utilities and open space amenities at the Upland Property. Redevelopment will entail excavation to depths of 21 to 26 feet bgs across a footprint of approximately 500,000 square feet. In areas outside the building footprint and paved areas (i.e., the open space areas), sufficient soil will be excavated to allow for the placement of at least 3 feet of imported clean fill material below the final surface grade. The building footprint, roadways and other paved areas will be underlain by a minimum thickness of one foot of clean material, including the building foundation and surface covers (e.g., pavement, concrete).

In the course of the excavation, soil and miscellaneous boulders, rubble, debris, and former subsurface infrastructure components will be removed and will be managed as described later in this RAM Plan. The earthwork for the building foundations and garage is anticipated to result in the removal of the approximately 225,000 cubic yards of fill; 50,000 cubic yards of naturally occurring granular material; 115,000 cubic yards of clay; and 100,000 cubic yards of organic material. Pre-characterization data have indicated that soils left in place following the excavation will consist of a mixture of the naturally deposited granular materials, clay and organics, and will have OHM concentrations significantly lower than the overlying fill material being excavated. The depth of the excavation will be driven by the structural needs of the project, and is expected to result in the removal of some volume of uncontaminated natural soils below the fill (i.e., soil with concentrations below RCS-1 standards and/or at natural background levels). Soil re-use and disposal will be governed by the provisions of the Remediation Waste Management Plan in Appendix E.

Given the depth of the excavation, the project will also involve construction dewatering. At the present time, GZA estimates that the initial rate of groundwater discharge will be on the order of 500 gallons per minute (gpm), and will decrease to a steady state flow rate of 50-100 gpm once sufficient drawdown depths have been achieved. All water pumped from the excavation will be sent through an on-Site water treatment system designed to reduce OHM concentrations to below National Pollutant Discharge Elimination System (NPDES) discharge criteria. The OHM concentrations in the treated groundwater will also be

below the MCP RCGW-2 notification thresholds applicable at the Site, i.e., after treatment the water will no longer meet the definition of Contaminated Groundwater per Section 310 CMR 40.0006 of the MCP.

Most of the treated water generated during the RAM will be discharged in accordance with a NPDES permit that will be obtained prior to the start of dewatering. However, treated groundwater may also be discharged to the subsurface along the western and/or northern boundary of the property. Additional information about groundwater management and treatment is included in the Remediation Waste Management Plan in Appendix E.

Notable open space amenities at the Upland Property will include landscaped plazas and pathways, a pavilion, and a 20-foot-wide publicly accessible Harborwalk paralleling the Site's waterfront along the Mystic River and embayment. The installation of the Harborwalk and related facilities, and the restoration of the shoreline, will be conducted in accordance with regulatory approvals from the MassDEP Waterways Chapter 91 Program, MassDEP Wetlands Section 401 Water Quality Certification, and the local Conservation Commission.

As shown on Figure 4A, the Harborwalk will be constructed above three different waterfront stabilization elements as described below:

- Along the Mystic River, the Harborwalk will be located above a 650-foot-long living shoreline designed to restore and enhance the deteriorated riverbank. To create the living shoreline, existing unsuitable soils, mixed invasive and early successional vegetation, and debris will be removed from an approximately 40- to 50-foot-wide margin along the river and will be handled as described later in this document. The excavated shoreline materials will include small volumes of soil previously stabilized during ISS activities, as well as near-shore sediments. Debris within this area is anticipated to include timber, brick, asphalt, concrete, former bulkheads, and retaining walls along the existing shoreline. The coastal margin will be restored by the installation of various stabilization enhancements consisting of natural materials (e.g., coconut-fiber-wrapped stone/gravel mix) overlain by clean imported fill material, after which the shoreline will be revegetated with native coastal plantings and new salt marsh.

- To the north of the living shoreline, along the western edge of the embayment, the Harborwalk will be supported on an approximately 300-foot-long pile-supported deck. The deck will consist of pre-cast concrete piles and deck planks, with a cast-in-place concrete deck topping. The pile-supported deck will be constructed over a stone slope revetment, and a new stormwater outfall pipe will be installed below the pile supported deck and revetment.

- Further north along the embayment, the Harborwalk will be supported on a steel sheetpile bulkhead system, with tierods extending landward to a sheetpile deadman. The bulkhead will be penetrated by two adjacent stormwater drainage outfalls; one of these will be a new stormwater conveyance to handle treated stormwater from the Upland Property, while the other outfall is the existing outfall that handles drainage from the abutting MBTA property.

Water-Side Site

The primary feature to be constructed in the Water-Side Site is a new public docking facility located at the head of the embayment. This facility will include a pile-supported floating dock system with an ADA-compliant gangway and ramp system. Based on the size of the proposed floating docking system and the anticipated drafts of the vessels that would be accessing the facility, navigational dredging to achieve a post-dredge depth of approximately ten feet below MLW (-15 feet NAVD88) is required. The planned navigational dredge footprint lies within the alignment and side slopes of the former navigational channel within the embayment.

Prior to dredging, between 50 and 60 deteriorated pilings will be removed from the waterway. In addition, a timber bulkhead comprising an additional 100 to 200 batter piles, as well as a sunken timber barge, will be removed from the dredge footprint. The pile removal will comply with the terms of the project-specific Water Quality Certification. Holes remaining after pile

removal will not be filled, with the exception of remnant creosote-treated pile locations, where remaining stumps or holes will be covered with clean sand.

Remnants of construction debris such as timber, brick, asphalt, concrete block, and concrete bulkheads and retaining walls at the existing shoreline will likely be encountered during shoreline construction and dredging activities. Individual concrete structures, such as concrete mooring blocks, will be removed whole to the extent practicable. However some concrete structures, such as dolphin pile caps, may require limited demolition to break the structures into manageable sizes for removal. Appropriate controls will be used to collect debris from the demolition and to transport the material to an off-Site disposal facility.

Following the removal of piles and other obstructions, mechanical dredging will be conducted from approximately elevation zero to fifteen feet below the existing mudline, resulting in the removal of approximately 17,500 cubic yards of sediment within an area of approximately 68,000 square feet. This includes small volumes of sediment that will be removed during the construction of the waterfront stabilization structures described above. In accordance with the terms of the draft Chapter 91 Determination for this project, dredging operations will be supervised by a dredging inspector approved by MassDEP. Furthermore, in accordance with the Water Quality Certification issued by MassDEP, dredging operations will comply with a Dredged Material Management Plan, which will govern the method of dredging and types of equipment, turbidity monitoring, dewatering methods, water treatment, dredged material transfer, and Best Management Practices (BMPs) to be implemented during the project.

The sediment will be dredged using an excavator or crane equipped with an environmental clam shell bucket. Due to the silty nature of the sediment, the clam shell bucket will be fitted with rubber seals and overlapping sides to limit the quantity of sediment that could flow into the water column when the dredged sediment is conveyed into the accompanying collection barge or scow. This type of operation results in a reduction in the amount of turbidity during construction as compared to a standard clam shell bucket.

Turbidity barriers will be installed around the work area to contain residual sediment suspended in the water column. The turbidity barriers will include pervious fabric, such as a geotextile, combined with ballasting at the bottom of the barrier. This design limits the risk of having the fabric lift in the current and allows water to flow through, while retaining silt within the confines of the barrier. Intermediate vertical floats will also be placed on the turbidity barrier. The floats are designed to lift the bottom section of the curtain at low tide so that the bottom edges remain close to the sediment mudline and do not "rake" the sediments, resulting in the turbidity barrier becoming a turbidity source.

During in-water work, turbidity monitoring will be conducted to comply with the requirements of the Water Quality Certification for the project and in accordance with the Dredged Material Management Plan. As required by the Water Quality Certification, pre-dredge monitoring will be conducted to establish baseline conditions. Once work starts, the turbidity will be measured inside and outside the turbidity barrier, as well as at least 50 feet away from the dredge area (to assess background conditions). The measurements will be taken at or near the mudline, at the midpoint of the water column, and at the surface. If there is evidence of a turbidity plume outside the barrier, the Wetlands Program will be notified and mitigating measures including additional turbidity controls and/or adjustments to work practices will be implemented.

Sediment removal will be conducted only during those times of the year (September 16 through February 14) permitted by State and Federal agencies so as to reduce possible adverse impacts to the ecosystem. The dredged sediment will be loaded into a barge or scow and managed as described in the Remediation Waste Management Plan (Appendix E).

Neighboring Properties

Construction activities at the neighboring properties within the RAM Project Area will be largely related to the construction of primary and secondary vehicular access to the Upland Property (Figure 4B). Primary vehicular access will be at a new signalized

intersection on Broadway (Route 99), via a driveway to be constructed across Parcel 1 and the properties at 20 and 38-50 Broadway. This primary driveway will be a four-lane boulevard (two lanes in each direction) with a landscaped island, marquee sign, period lighting, sidewalks, and bicycle accommodations. In addition, a service driveway for employee shuttle buses, delivery vehicles, service vehicles, and emergency vehicles will be located further north on Broadway at the existing signalized intersection with Beacham Street, and will be constructed across Parcels 2 and 3 and a portion of the 3 Charlton Street property. Existing utilities at the Site will be relocated within portions of the 80 Broadway property, and additional utility tie-ins will be required along Broadway and Charlton Street. The construction of these driveways and utilities is anticipated to result in the generation of some impacted soil and groundwater, which will be managed in accordance with the Remediation Waste Management Plan in Appendix E.

Additional excavation associated with utility replacement work may be conducted on other portions of the adjoining MBTA property. This work will be conducted as a URAM.

REMEDIATION WASTE MANAGEMENT (310 CMR 40.0444(1)(d))

Remediation Waste, including soil, groundwater, sediment and associated debris that is generated during the course of this RAM will be handled in accordance with the attached Remediation Waste Management Plan (Appendix E). All Remediation Waste will be tracked under the primary RTN for this project, i.e., RTN 3-13341 for the former Everett Staging Yard Site.

ENVIRONMENTAL MONITORING PLAN (310 CMR 40.0444(1)(e))

The following environmental monitoring plan will be implemented during RAM activities at the Site.

Real time particulate (dust) monitoring will be conducted at the perimeter of the Upland Property with an AirLogics automated real-time Site perimeter air monitoring system operated throughout the duration of the RAM. The AirLogics system will be supplemented with the use of hand-held dust monitoring during work at neighboring properties. The data collected by the will be used to evaluate compliance with the Site perimeter limits for dust described below, and to identify any need to suspend or modify remediation activities as a result of RAM-related air emissions. The AirLogics system will operate on a continuous, 24-hour basis until soil excavation and backfilling activities associated with the RAM have been completed.

The automated perimeter air monitoring system will consist of individual monitoring stations with associated analytical instrumentation, a meteorological system, a computer control system, and an alarm system linked to the analytical instrumentation by an integrated communication/telemetry package. The meteorological station will be used to identify which stations are upwind, downwind, or crosswind of Site activities on a real-time basis.

The analytical instrumentation within each perimeter station will consist of a Respirable Particulate Meter for the measurement of dust as a surrogate for PAHs and metals. The Respirable Particulate Meters will be housed in weather-tight enclosures. The system will operate on solar power, with on-board battery backup. The following is a description of each of the key analytical instruments:

- Respirable Particulates

Direct-reading real-time particulate meters (DustTrak) will be used to monitor particulate (dust). The measurement of dust levels will be accomplished using infrared electromagnetic radiation to sense airborne particles. The dust meter can be configured to respond only to dust particles < 10 micron in diameter (PM10), dust particles < 2.5 microns (PM2.5), or total suspended particulate. For this project, the particulate meters will be configured to measure PM10. The limit of detection is 1 $\mu g/m^3$ (microgram per cubic meter).

- Meteorological System

An on-Site meteorological tower (RM Young sensors) will be used to measure wind speed, direction, dry-bulb temperature, and relative humidity. The central computer system will receive continuous information from the meteorological system and compute a 2-minute running average wind speed and direction value. The 2-minute running average wind direction will be used to identify which of the monitoring stations is upwind, downwind, or crosswind.

- Computer Control System

Data generated by the instrumentation and the meteorological station, as well as operational parameters, will be continuously uploaded via radio telemetry links to a central computer system which will be located in the project trailer or some other secure location with continuous electrical power. The central computer system will communicate with each perimeter monitoring station every minute to obtain the latest data values from the individual sensors. The retrieved data will then be displayed on the central computer screen, and stored in a database along with the meteorological data and other operational status information. The monitoring data will be automatically archived and used to print out summary graphs at the end of each day.

- Communications

The system will utilize a proprietary software package to allow for communication between the instruments, environmental control equipment, meteorological station, alarm display, and the central computer. Communication will be accomplished with radio telemetry links operating on a fixed frequency licensed to AirLogics by the FCC.

The system will be configured to generate 15-minute time-weighted averages of particulate levels. This set-up will include alarm conditions for PM10 at 1.4 mg/m^3 over upwind background, along with warning level alarms designed to alert project personnel of potential air quality issues. The particulate PM10 action levels have been selected based on Site-specific soil-derived dust exposure point concentrations (EPCs) developed by GZA. Documentation of the risk evaluation is included in Appendix F.

Weekly reports depicting a graphical summary of the results of the real time monitoring will be automatically printed out at the end of each week, and GZA's on-Site personnel will prepare a daily summary of AirLogics system data. Weekly summary sheets will be included in the subsequent RAM Status Reports and/or Completion Report.

DUST AND ODOR CONTROL MEASURES

Measures will be employed throughout the work to limit dust generation, including the covering of trucks hauling soil off the RAM Project Area and the covering of roll-off containers and temporary stockpiles at the end of each day. A truck wheel washing station will be installed near the construction exit to limit the tracking of materials from the RAM Project Area onto public roadways. As needed, construction entrances and roadways will be swept. Should PM10 action levels be exceeded in any 15-minute interval despite these measures, work will be halted to assess the potential cause or causes of the exceedance and corrective actions will be taken as necessary. Corrective actions may include, but are not limited to, alteration of work practices to limit dust generation or the application of water for dust suppression. Should odors be encountered during dredging and/or dredged material management, the dredged materials will be covered to the extent practicable and odor-suppressing foam will be applied to work surfaces as mitigative measures.

ADDITIONAL INFORMATION

REQUIRED PERMITS (310 CMR 40.0444 (1)(f))

The following permits and regulatory approvals must be obtained prior to RAM implementation:

- Massachusetts Environmental Policy Act (MEPA) Certificate, received for the project on August 28, 2015;

- Everett Conservation Commission Order of Conditions (MassDEP File # 022-0098), received September 24, 2015.
- MassDEP Waterways Program Chapter 91 Written Determination, Waterways Application Number W15-4480-N, draft issued January 22, 2016.
- MassDEP Wetlands Program Water Quality Certification X266262, Wetlands File No. 22-0098, issued January 22, 2016.
- United States Army Corps of Engineers Section 10 and Section 404 Individual Permit, application filed September 8, 2015, approval pending.
- National Pollution Discharge Elimination System (NDPES) Construction General Permit for projects exceeding 1 acre, will be obtained prior to the start of work.
- NDPES Remediation General Permit for groundwater discharge, will be obtained prior to dewatering.

Other local permits for construction-related activities (e.g., trenching, electrical permits, and building permits) will be obtained by the contractor prior to initiation of the work. In addition, DigSafe will be notified by the contractor prior to subsurface activities that may encounter utilities.

IMMEDIATE RESPONSE ACTION PLAN

As described in earlier sections of this RAM Plan and in the Remediation Waste Management Plan in Appendix E, Best Management Practices (BMPs) will be implemented throughout the RAM. These include the installation and maintenance of erosion and sedimentation controls in the upland areas and turbidity barriers around in-water work areas; measures to monitor and control odors and dust; stockpile management procedures; and decontamination of vehicles leaving the RAM Project Area. However, despite these BMPs, the potential exists for spills that may require notification to MassDEP. In addition, given the long industrial history of the Site, there is also a potential for discovering previously unknown historical releases that may trigger notification criteria under the MCP. Such notifications will be made promptly and in accordance with the requirements of the MCP and any project-specific permits.

The 2-hour and 72-hour notification provisions of the MCP also require the prompt implementation of Immediate Response Actions (IRAs), which must be conducted in accordance with an IRA Plan approved by MassDEP. An IRA Plan describing the actions that will be implemented if certain common IRA conditions are encountered during the implementation of the RAM is included as Appendix G of this RAM Plan for public review and comment. In the event that a 2-hour or 72-hour notification condition is encountered, MassDEP will be notified within the appropriate timeframe, and GZA will begin IRA activities as presented in the plan and as orally approved by MassDEP.

LSP SEAL AND SIGNATURE (310 CMR 40.0444(1)(g))

The seal and signature of the Licensed Site Professional (LSP) for this RAM Plan (Lawrence Feldman, LSP #8107) are provided on the attached transmittal form in Appendix B.

CERTIFICATION FOR GREATER THAN 1500 CUBIC YARDS OF SOIL (310 CMR 40.0444(1)(h))

In accordance with Section 40.0442(5) of the MCP, Wynn MA has indicated that it has sufficient financial resources to manage greater than 1,500 cubic yards of excavated materials in the manner and time frames specified in 310 CMR 40.0030.

ADDITIONAL INFORMATION FOR A RAM THAT INCLUDES THE CONSTRUCTION OF A STRUCTURE (310 CMR 40.0442(3))

In addition to the required elements of the RAM Plan provided above, Section 310 CMR 40.0442(3) of the MCP and MassDEP's guidance document *Construction of Buildings in Contaminated Areas (WSC-00-425),* dated January 26, 2000, require that certain evaluations be completed within and adjacent to the footprint of any proposed structure that could prevent or impede the implementation of response actions in the future. At this Site, the building to be constructed under the RAM would limit future access to subsurface soils and groundwater. Therefore, each of the following sub-sections evaluates post-RAM conditions beneath and adjacent to the structure in terms of the specific criteria established by the MCP.

SITE ASSESSMENT

Guidance document WSC-00-425 states that, in order to be in compliance with the MCP, a focused site characterization must be conducted within and adjacent to the footprint of the proposed building and associated subsurface structures to adequately define the nature and degree of contamination. This requirement has been met by the extensive upland pre-characterization program conducted within the footprint of the proposed structure at the Upland Property as described earlier within this RAM Plan. The program included the collection and analysis of more than 1,700 soil samples in an area of less than 10 acres. Of these, approximately 700 samples were collected from fill material that will be excavated during the RAM, 500 samples were collected from native material that will be excavated during the RAM, and approximately 500 samples were collected from the underlying native material that will be left in place beneath the building following construction.

The results of the focused site characterization indicated that metals concentrations in soil beneath the proposed building footprint were lower than in the remediation areas being addressed under the August 2015 RAM Plan, and that no soil samples exceeded the Site-specific acute risk value for arsenic of 2,684 mg/kg developed as part of the Phase III RAP. The data further indicated that OHM concentrations were significantly lower in the native soils underlying the impacted fill material at the Upland Property; therefore, the removal of the fill material during RAM activities will effectively remediate soil conditions beneath the building footprint. The analytical data collected during the pre-characterization program were used to support the evaluations and findings in the following sub-sections.

RISK CHARACTERIZATION

Appendix H of this RAM Plan presents a focused risk assessment that meets the requirements of the MCP set forth in WSC-00-425. That guidance document requires that a focused risk assessment be conducted for the area within and adjacent to the footprint of proposed building(s) and associated subsurface structures to adequately characterize the nature of risks to construction workers, surrounding populations, and future occupants of the building, and to ensure that such risks are within the limits permitted by the MCP. The risk assessment is required when a building is constructed on a disposal site for two reasons: (1) to show that the construction of the building will not pose a Significant Risk to workers constructing the building or to future building occupants; and (2) to assist in demonstrating that necessary future remedial actions will not be limited or precluded by the presence of the building. Each of these conditions is further discussed below.

Risk To Construction Workers and Future Building Occupants

As shown in Appendix H, construction workers working at the Upland Property were assumed to encounter soil via dermal contact, incidental ingestion, and inhalation of soil-derived fugitive dust, and to be exposed to contaminants in groundwater via dermal contact and inhalation of ambient air. As a conservative approach, only the OHM concentrations from the fill material (which are higher than the OHM concentrations in the underlying native soils) were used in the risk calculations. Construction workers at the Water-Side Site were assumed to encounter sediment via dermal contact and incidental ingestion and to be exposed to contaminants in surface water via dermal contact. The risk calculations indicate that OHM concentrations in soil, groundwater, surface water and sediment do not pose a Significant Risk to the health of construction workers during the work, nor to future utility workers or construction workers at the Site.

The risk characterization also qualitatively evaluated the potential risks to future building occupants, including guests and workers at the resort, and to other visitors at the Site. During the RAM, impacted soils will be removed to a depth of approximately 25 to 30 feet bgs within the building footprint, exposing the relatively un-impacted native soils beneath. Outside the building footprint and paved areas, sufficient soil will be excavated at the Upland Property to accommodate at least 3 feet of clean fill material. Therefore, following the completion of construction, paving, and landscaping, and with the implementation of an AUL to restrict disturbance of subsurface soil, residual OHM-impacted material will not be accessible to future human or environmental receptors at the Upland Property, resulting in a condition of NSR.

Focused Remedial Program and Impact of Building on Any Necessary Future Remedial Actions

As described in this RAM Plan, construction of the building will result in the remediation of approximately 500,000 cubic yards of impacted soil by excavation and off-Site disposal. Following the completion of these activities, no additional remedial actions will be necessary within the building footprint. Therefore, the presence of the building will not have an adverse impact on future MCP response actions at the Site.

FEASIBILITY EVALUATION

The guidance document requires that a focused feasibility study be conducted for the area within and adjacent to the footprint of the proposed building to determine if it is feasible to reduce soil contaminant levels to concentrations that achieve or approach a background condition, and if so, to ensure that such remediation is conducted before or during construction of the overlying portions of the building. By removing impacted fill materials within the building footprint and exposing relatively unimpacted underlying natural materials below, this RAM will result in soil concentrations approaching background within and adjacent to the planned building footprint; therefore this feasibility study is not necessary.

REDUCTION OF EXPOSURE POINT CONCENTRATIONS TO BELOW UCLS

The guidance document states that, for sites where the Exposure Point Concentration of soil contaminants beneath a proposed building will be greater than applicable Upper Concentration Limits (UCLs) specified at 310 CMR 40.0996(7), a formal Phase III evaluation of remedial alternatives must be conducted on at least the portion of the site within and adjacent to the footprint of the proposed building. At this Site, the OHM concentrations in soil beneath the planned building footprint are and continue to be below applicable UCLs; therefore, no additional evaluation or remedial efforts are necessary to meet this requirement.

SOURCE CONTROL

The guidance document states that, at those sites where placement of the building structure will preclude further investigative or remedial efforts, sufficient data must be obtained to demonstrate compliance with performance standards relating to source control within and adjacent to the footprint of the building structure. Based on the large amount of pre-characterization data available, no uncontrolled sources of OHM have been identified at the Upland Property.

MANAGEMENT OF NAPL

No Non-Aqueous Phase Liquid (NAPL) has been identified at the Disposal Site; therefore, the requirements for NAPL management do not apply.

EVENTUAL ACHIEVEMENT OF A LEVEL OF NSR FOR THE ENTIRE DISPOSAL SITE

The remedial response actions being conducted at the Upland Property under the August 18, 2015 RAM Plan are consistent with the Recommended Remedial Action Alternative (RRAA) presented in the Phase III Remedial Action Plan filed by GEI Consultants in August 2013 for RTN 3-13341. A condition of NSR is anticipated at the Upland Property following the completion of the August 2015 RAM, along with the placement of barriers (clean fill, building foundation, roadways) that control direct

access to underlying soils, and the filing of an AUL. The soil removal and disposal described in this RAM Plan are not required to achieve a condition of NSR, but are an incidental and substantial benefit of the planned construction.

Achieving a condition of NSR in the Water-Side Site will require completion of additional in-water response actions that are independent of the construction activities to be managed under this RAM Plan; these in-water remedial activities will be conducted in accordance with the Phase III and Phase IV provisions of the MCP with the objective of attaining a Permanent Solution for the Site.

PUBLIC NOTIFICATION

Following the designation of the Site as a Public Involvement Plan (PIP) Site on April 28, 2015, a PIP was developed to provide opportunities for public involvement throughout the MCP process. The plan establishes protocols for the submittal of information to local information repositories, establishment of a Site mailing list, notifications to public officials and local residents, and public comment periods and public meetings. The following sections describe how this RAM Plan complies with each of the provisions of the plan.

LOCAL INFORMATION REPOSITORIES

Four local information repositories have been established for the project - at the Parlin Memorial Library in Everett, the Shute Memorial Library in Everett, the Boston Public Library Charlestown Branch, and the Somerville Public Library. Draft and final copies of this RAM Plan were made available for public review at each of these repositories, and were also published online at www.wynnineverett.com/public_documents.html.

SITE MAILING LIST AND NOTIFICATIONS TO PUBLIC OFFICIALS AND RESIDENTS

A mailing list has been established for the Site under the PIP. Notices were sent to each of the parties on the mailing list to inform them of the availability of the draft RAM Plan, the duration of the associated public comment period, and information about how to submit comments regarding the draft. No comments were received. Notices will be sent to each of the parties on the mailing list to inform them of the availability of the final RAM Plan.

PUBLIC COMMENT PERIOD, INCLUDING PUBLIC MEETING

Consistent with the PIP provisions, the submittal of a draft of this RAM Plan was followed by a 20-day public comment period. During the comment period, a public meeting was held in the City Council Chamber at Everett City Hall, 484 Broadway, on February 17, 2016, to present the draft report to the community and other interested parties. No comments were received.

NOTIFICATION TO LOCAL OFFICIALS

As required by Section 310 CMR 40.1403(3)(d), notice to local officials will be provided regarding the purpose, nature, and expected duration of the RAM within 20 days prior to its implementation. Copies of the notifications are included in Appendix I.

If you should require any further information concerning the planned RAM activities, please do not hesitate to contact the undersigned at (781) 278-3700.

Very truly yours,
GZA GEOENVIRONMENTAL, INC.

David E. Leone
Senior Project Manager

Albert J. Ricciardelli
Consultant/Reviewer

Lawrence Feldman

Lawrence Feldman, LSP
Senior Principal

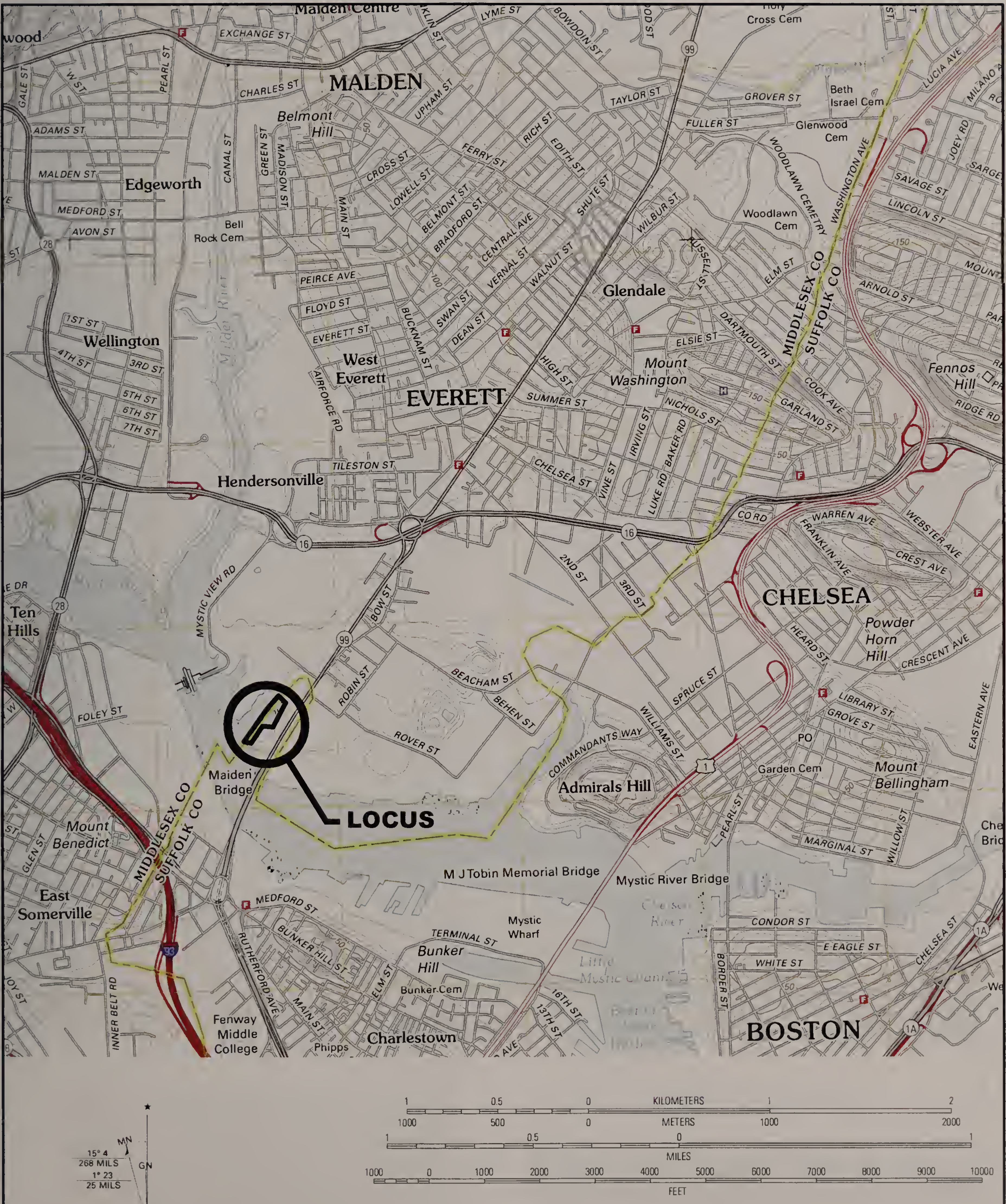
Attachments:

Figure 1	Site Locus
Figure 2	Properties within RAM Boundary
Figure 3	Site Plan
Figure 4A	Construction Plans – Upland Property and Water-Side Site
Figure 4B	Construction Plans - Neighboring Parcels within RAM
Appendix A	Limitations
Appendix B	Transmittal Forms BWSC106
Appendix C	MassGIS Map
Appendix D	Pre-Characterization Program data table, figures, boring logs, and analytical reports
Appendix E	Remediation Waste Management Plan
Appendix F	Derivation of Site-Specific Perimeter Dust Action Levels
Appendix G	Immediate Response Action (IRA) Plan
Appendix H	Focused Risk Assessment
Appendix I	Notification to Local Officials

J:\170,000-179,999\171521\171521-15.DEL\Construction RAM Plan\Wynn Construction RAM Plan 2016-05-02 Final.docx

FIGURES

© 2016 – GZA GeoEnvironmental, Inc. GZA–J:\BRANCH OFFICES\01\01.0171521.00 EVERETT LAND DEVELOPMENT\FIGURES AND CAD\REMDIATION CAD\RAM CAD FOR VIJAY\FIGURE 1 – LOCUS PLAN.DWG LOCUS PLAN FEBRU



CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

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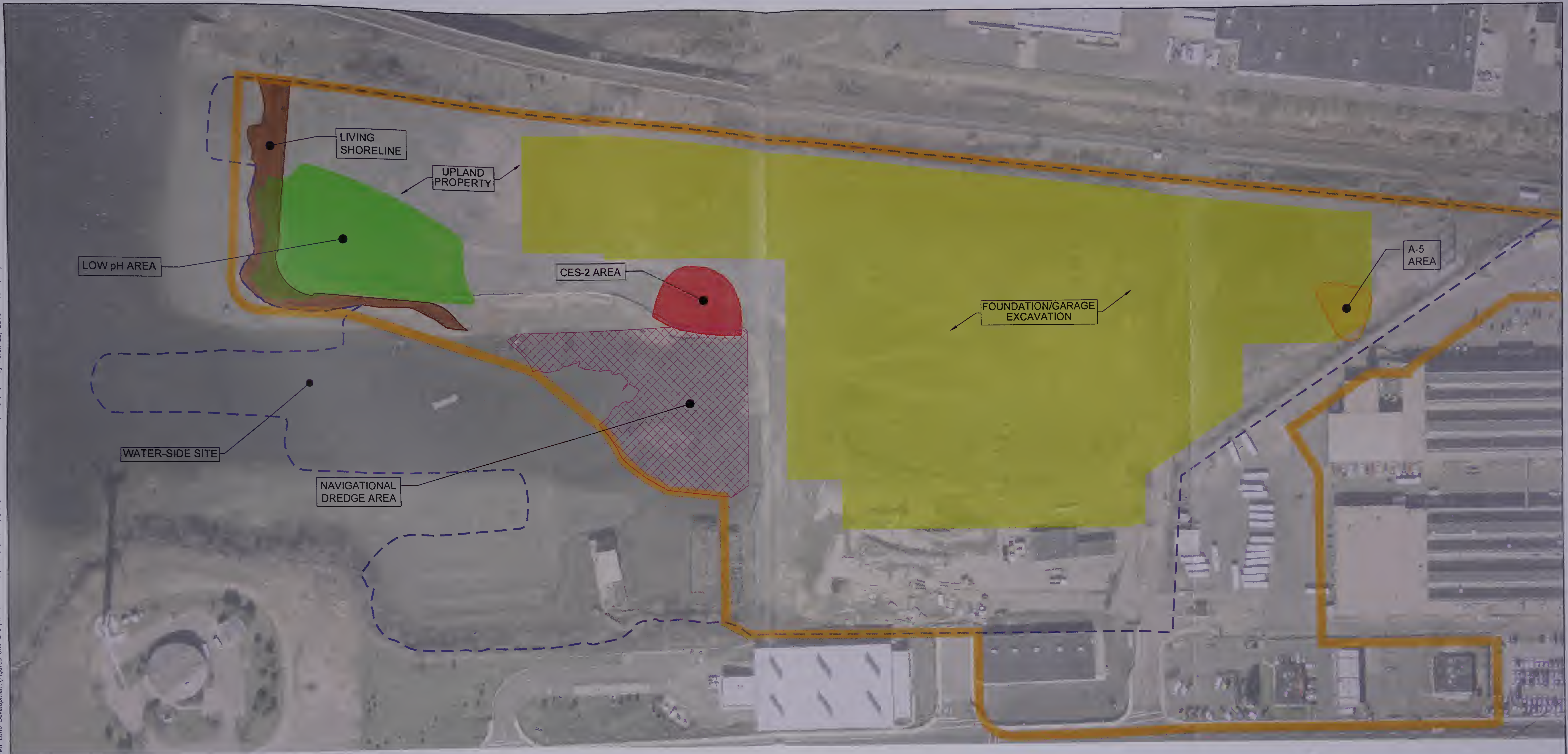
WYNN EVERETT
1 HORIZON WAY
EVERETT, MASSACHUSETTS

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www gza com

PREPARED FOR:
WYNN MA, LLC

SITE LOCUS MAP

PROJ MGR: DEL	REVIEWED BY: AJR	CHECKED BY: LF	FIGURE
DESIGNED BY: VKR	DRAWN BY: JJZ	SCALE: AS SHOWN	1
DATE: FEBRUARY, 2016	PROJECT NO 01.0171521.15	REVISION NO.	SHEET NO. 1 OF 4



LEGEND

🟥	CES-2 AREA (ELEVATED ARSENIC AREA – EXCAVATION AND OFF-SITE DISPOSAL – AUG 2015 RAM)
🟩	LOW pH AREA (IN-SITU SOLIDIFICATION/STABILIZATION – AUG 2015 RAM)
▭	A-5 AREA (ELEVATED ARSENIC AREA – EXCAVATION AND OFF-SITE DISPOSAL – AUG 2015 RAM)
🟨	BUILDING EXCAVATION FOOTPRINT (SUBSURFACE GARAGE – IMPACTED FILL MATERIAL AND A PORTION OF THE UNDERLYING NATURAL SOILS TO BE EXCAVATED)
🟫	LIVING SHORELINE – IMPACTED SURFICIAL SOIL TO BE EXCAVATED AND REPLACED WITH CLEAN MATERIAL
▨	NAVIGATIONAL DREDGE FOOTPRINT
━	RAM PROJECT AREA BOUNDARY
– – –	FORMER EVERETT STAGING YARD DISPOSAL SITE BOUNDARY (RTN 3-13341)

NOTES:
1. BASE PLAN FROM FELDMAN PROFESSIONAL LAND SURVEYORS PLAN TITLED "EXISTING CONDITIONS PLAN, BROADWAY (ROUTE 99), EVERETT, MASS." DATED MARCH 20, 2015.
2. AERIAL IMAGE OBTAINED FROM MASSACHUSETTS OFFICE OF GEOGRAPHIC INFORMATION (MASSGIS) USGS COLOR ORTHO IMAGERY DATED 2013/2014.

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SITE PLAN
FORMER EVERETT STAGING YARD

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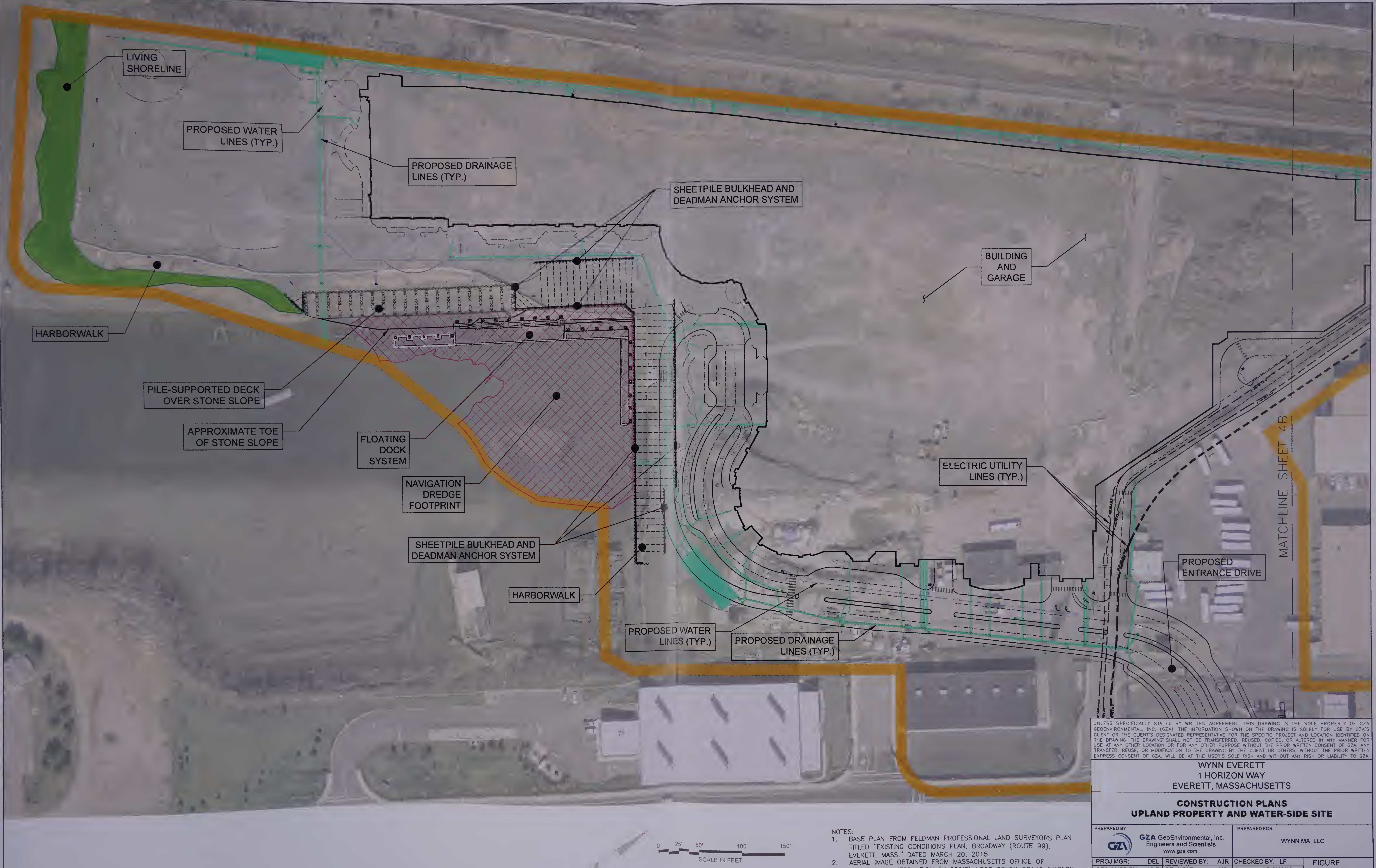
PREPARED FOR
WYNN MA, LLC

PROJ MGR: DEL	REVIEWED BY: AJR	CHECKED BY: LF	FIGURE 3 SHEET NO. 3 OF 4
DESIGNED BY: VKR	DRAWN BY: LF	SCALE: AS SHOWN	
DATE: MARCH, 2016	PROJECT NO. 01.0171521.15	REVISION NO.	

© 2016 – GZA GeoEnvironmental, Inc. GZA-J:\Branch Offices\01\01.0171521.00 Everett Land Development\Figures and CAD\Remdiation CAD\RAM CAD for Vijay\Figure 2-4 – RAM Boundary.dwg [Figure 3] March 23, 2016 – 12:14pm joshua.zoll


LIVING SHORELINE
PROPOSED WATER LINES (TYP.)
PROPOSED DRAINAGE LINES (TYP.)
SHEETPILE BULKHEAD AND DEADMAN ANCHOR SYSTEM
BUILDING AND GARAGE
HARBORWALK
PILE-SUPPORTED DECK OVER STONE SLOPE
APPROXIMATE TOE OF STONE SLOPE
FLOATING DOCK SYSTEM
NAVIGATION DREDGE FOOTPRINT
ELECTRIC UTILITY LINES (TYP.)
SHEETPILE BULKHEAD AND DEADMAN ANCHOR SYSTEM
HARBORWALK
PROPOSED ENTRANCE DRIVE
PROPOSED WATER LINES (TYP.)
PROPOSED DRAINAGE LINES (TYP.)
MATCHLINE SHEET 4B
0
25'
50'
100'
150'
SCALE IN FEET

NOTES:
1. BASE PLAN FROM FELDMAN PROFESSIONAL LAND SURVEYORS PLAN TITLED "EXISTING CONDITIONS PLAN, BROADWAY (ROUTE 99), EVERETT, MASS." DATED MARCH 20, 2015.
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EVERETT, MASSACHUSETTS

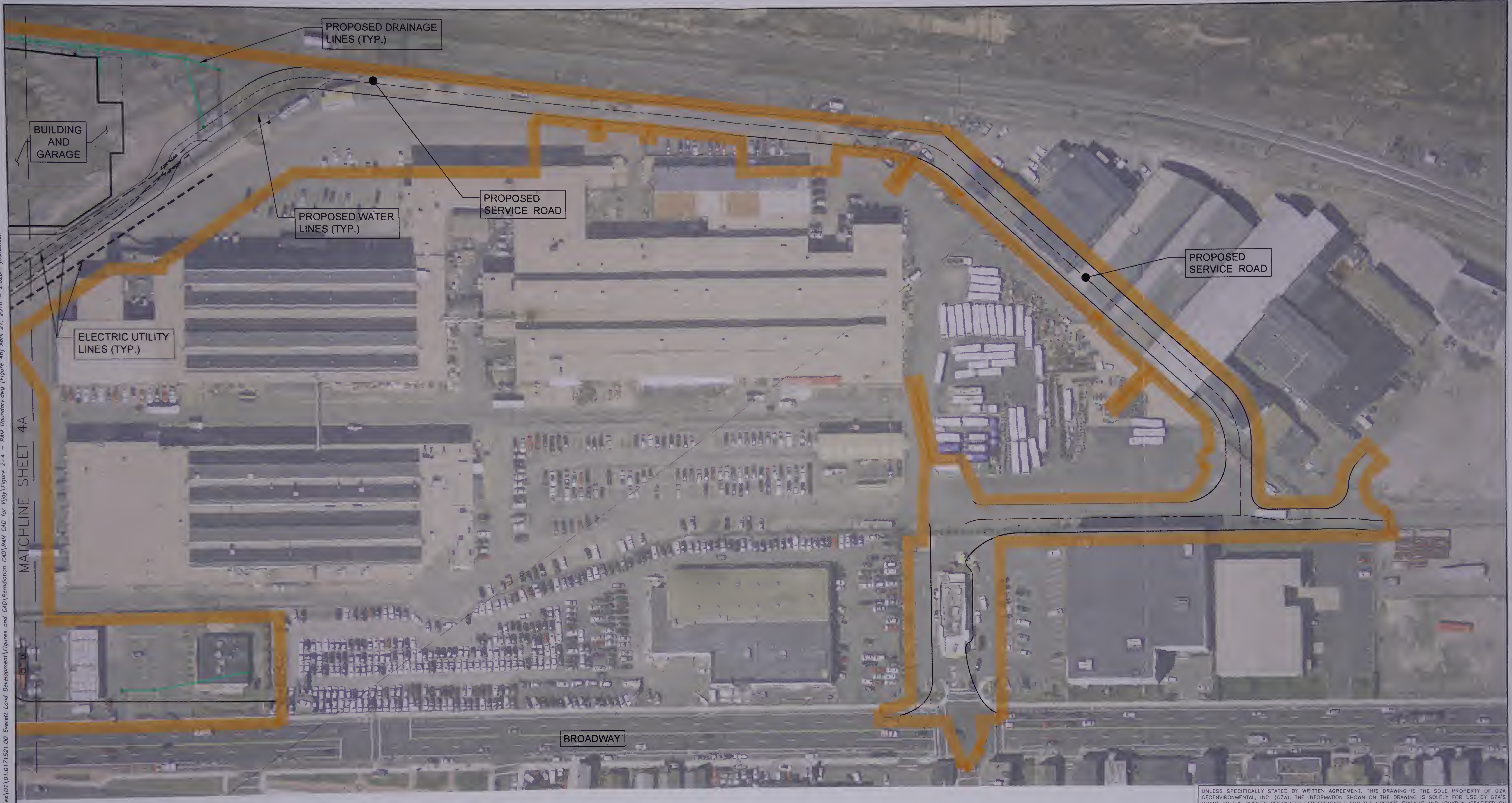
CONSTRUCTION PLANS
UPLAND PROPERTY AND WATER-SIDE SITE

PREPARED BY
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR
WYNN MA, LLC

PROJ MGR: DEL	REVIEWED BY: AJR	CHECKED BY: LF	FIGURE 4a SHEET NO 4a OF 4
DESIGNED BY: VKR	DRAWN BY: JJZ	SCALE: AS SHOWN	
DATE: MARCH, 2016	PROJECT NO. 01.0171521.15	REVISION NO.	

© 2016 – GZA GeoEnvironmental, Inc. GZA-J:\Branch Offices\01\01.0171521.00 Everett Land Development\Figures and CAD\Remdiation CAD\RAM CAD for Vijay\Figure 2-4 – RAM Boundary.dwg [Figure 4a] March 23, 2016 – 12:15pm joshua.zall



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CONSTRUCTION PLANS NEIGHBORING PARCELS WITHIN RAM

PREPARED BY GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR WYNN MA, LLC	
PROJ MGR: DEL	REVIEWED BY: AJR	CHECKED BY: LF	FIGURE 4b SHEET NO. 4b OF 4
DESIGNED BY: VKR	DRAWN BY: JJZ	SCALE: AS SHOWN	
DATE: APRIL, 2016	PROJECT NO. 01.0171521.15	REVISION NO.	

NOTES:
1. BASE PLAN FROM FELDMAN PROFESSIONAL LAND SURVEYORS PLAN TITLED "EXISTING CONDITIONS PLAN, BROADWAY (ROUTE 99), EVERETT, MASS." DATED MARCH 20, 2015.
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GZA

Proactive by Design

APPENDIX A

LIMITATIONS

Construction RAM Plan
Construction-Related Remediation Activities
(Former) Everett Staging Yard
1 Horizon Way, Everett, MA
APPENDICES A-I

May 2016

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